

## **ABSTRACT**

A valve system lifter for combustion engines includes a hard metal face pad connected to a lower-grade metal lifter body. The connecting material is one or more materials that are different from both the lifter body and the face pad. Preferably, the connecting material is a silver- and copper-containing material, that may take the form of a wafer with silver or silver alloy layered over a copper alloy core. The preferred body includes one or more ferrous compounds, and the preferred face includes tungsten carbide. The resulting lifter is resistant to the cracking, breakage, and wear that plague conventional lifters, due to the harsh temperature and impact environment of the lifter. The resulting lifter may be used to reduce the need for change-out and down-time in many engines.

*[1678/burnham,patent app]*